

# Periodic Table

**Electronegativity (en)**

**Main - Group Elements**

**Transition Elements**

**Main - Group Elements**

Period	Bond Type - Electronegativity Difference (end)																						
	<div><div>Non-Polar Covalent</div><div>Polar Covalent</div><div>Ionic</div></div>																		8A (18)				
1	1A (1)															3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	2	He	
1	1 H Hydrogen 1.008*															5 B Boron 10.811*	6 C Carbon 12.011*	7 N Nitrogen 14.007*	8 O Oxygen 15.999*	9 F Fluorine 18.998	10 Ne	Helium 4.003	
2	3 Li Lithium 6.941*	4 Be Beryllium 9.012															13 Al Aluminum 26.982	14 Si Silicon 28.086*	15 P Phosphorous 30.973	16 S Sulfur 32.066*	17 Cl Chlorine 35.453*	18 Ar	Neon 20.180
3	11 Na Sodium 22.990	12 Mg Magnesium 24.305	3B (3)	4B (4)	5B (5)	6B (6)	7B (7)	(8)	8B (9)	(10)	1B (11)	2B (12)	13 Al Aluminum 26.982	14 Si Silicon 28.086*	15 P Phosphorous 30.973	16 S Sulfur 32.066*	17 Cl Chlorine 35.453*	18 Ar	Argon 39.948				
4	19 K Potassium 39.089	20 Ca Calcium 40.078	21 Sc Scandium 44.956	22 Ti Titanium 47.867	23 V Vanadium 50.942	24 Cr Chromium 51.996	25 Mn Manganese 54.938	26 Fe Iron 55.845	27 Co Cobalt 58.933	28 Ni Nickel 58.693	29 Cu Copper 63.546	30 Zn Zinc 65.409	31 Ga Gallium 69.723	32 Ge Germanium 72.610	33 As Arsenic 74.922	34 Se Selenium 78.960	35 Br Bromine 79.904	36 Kr	Krypton 83.798				
5	37 Rb Rubidium 85.468	38 Sr Strontium 87.620	39 Y Yttrium 88.906	40 Zr Zirconium 91.224	41 Nb Niobium 92.906	42 Mo Molybdenum 95.940	43 Tc Technetium (98)	44 Ru Ruthenium 101.070	45 Rh Rhodium 102.906	46 Pd Palladium 106.42	47 Ag Silver 107.868	48 Cd Cadmium 112.411	49 In Indium 114.800	50 Sn Tin 118.710	51 Sb Antimony 121.750	52 Te Tellurium 127.600	53 I Iodine 126.904	54 Xe	Xenon 131.290				
6	55 Cs Cesium 132.905	56 Ba Barium 137.327		72 Hf Hafnium 178.490	73 Ta Tantalum 180.948	74 W Tungsten 183.84	75 Re Rhenium 186.207	76 Os Osmium 190.230	77 Ir Iridium 192.217	78 Pt Platinum 195.08	79 Au Gold 196.967	80 Hg Mercury 200.590	81 Tl Thallium 204.383*	82 Pb Lead 207.200	83 Bi Bismuth 208.980	84 Po Polonium (209)	85 At Astatine (210)	86 Rn	Radon (222)				
7	87 Fr Francium (223)	88 Ra Radium (226)		104 Rf Rutherfordium (267)	105 Db Dubnium (268)	106 Sg Seaborgium (271)	107 Bh Bohrium (272)	108 Hs Hassium (270)	109 Mt Meitnerium (276)	110 Ds Darmstadtium (281)	111 Rg Roentgenium (280)	112 Cn Copernicium (285)	113 Uut Ununtrium (284)	114 Uuq Ununquadium (289)	115 Uup Ununpentium (288)	116 Uuh Ununhexium (293)	117 Uus Ununseptium (294)	118 Uuo Ununoctium (294)					

— **Atomic Number**  
Number of Protons & Electrons

— **Atomic Mass**  
Average Mass of Protons & Neutrons  
Includes isotopes

**Electronegativity** is a chemical property that describes the ability of an atom to attract electrons towards itself in a covalent bond. The Electronegativity Range is from 0.7 (Low) to 4.0 (High)

## Inner-Transition Elements

6	<b>Lanthanides (Rare Earths)</b>	57 <b>La</b> Lanthanum 138.906	58 <b>Ce</b> Cerium 140.116	59 <b>Pr</b> Praseodymium 140.908	60 <b>Nd</b> Neodymium 144.240	61 <b>Pm</b> Promethium (147)	62 <b>Sm</b> Samarium 150.360	63 <b>Eu</b> Europium 151.965	64 <b>Gd</b> Gadolinium 157.250	65 <b>Tb</b> Terbium 158.925	66 <b>Dy</b> Dysprosium 162.50	67 <b>Ho</b> Holmium 164.930	68 <b>Er</b> Erbium 167.260	69 <b>Tm</b> Thulium 168.934	70 <b>Yb</b> Ytterbium 173.040	71 <b>Lu</b> Lutetium 174.967
7	<b>Actinides</b>	89 <b>Ac</b> Actinium 227.028	90 <b>Th</b> Thorium 232.038	91 <b>Pa</b> Protactinium 231.035	92 <b>U</b> Uranium 238.029	93 <b>Np</b> Neptunium (237)	94 <b>Pu</b> Plutonium (244)	95 <b>Am</b> Americium (243)	96 <b>Cm</b> Curium (247)	97 <b>Bk</b> Berkelium (247)	98 <b>Cf</b> Californium (251)	99 <b>Es</b> Einsteinium (252)	100 <b>Fm</b> Fermium (257)	101 <b>Md</b> Mendelevium (258)	102 <b>No</b> Nobelium (259)	103 <b>Lr</b> Lawrencium (262)

\* To more accurately convey variations in atomic mass, the international agency IUPAC, in 2009, set upper and lower bounds of the atomic mass of these elements.